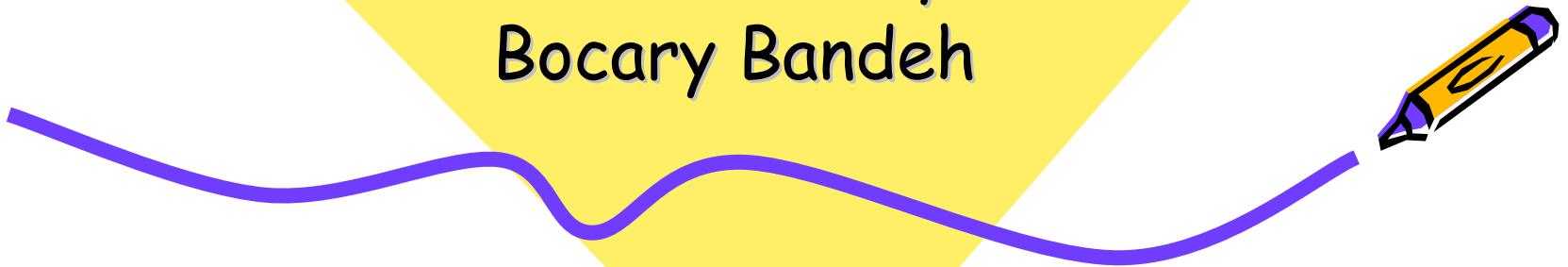


Differentiated Instruction for Math

Presented by
Bocary Bandeh



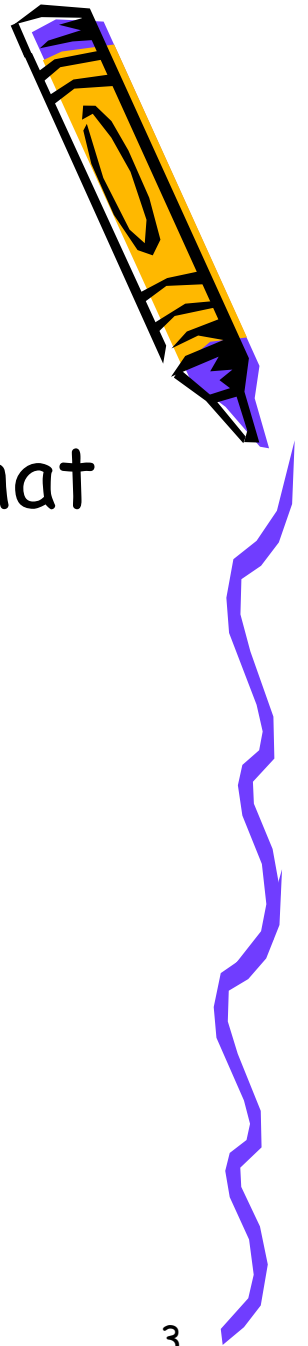
Strategies

- Tiered Assignments
- Flexible Grouping
- Compacting
- Learning Contracts
- Interest Centers or Interest Group
- Choice Boards



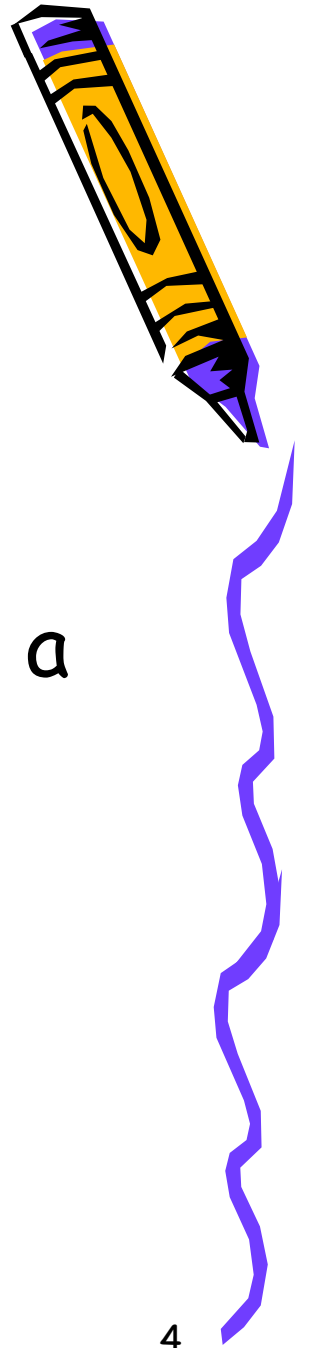
Tiered Assignments

- Tiered assignments are designed to instruct students on essential skills that are provided at different levels of complexity, abstractness, and open-endedness.
- The curricular content and objectives are the same, but the process or product are varied according to the students' level of readiness



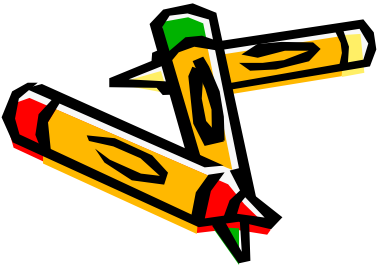
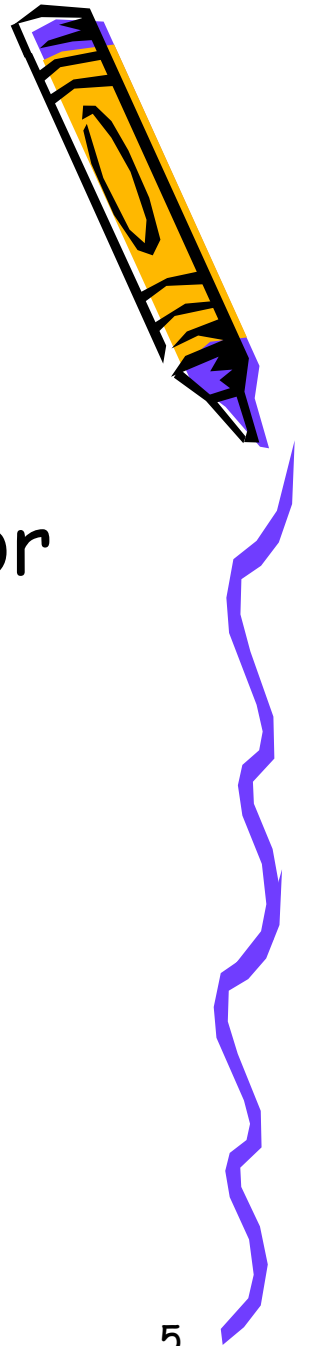
For example

- In a unit on measurement, some students are taught basic measurement skills, including using a ruler to measure the length of objects. Other students can apply measurement skills to problems involving perimeter.



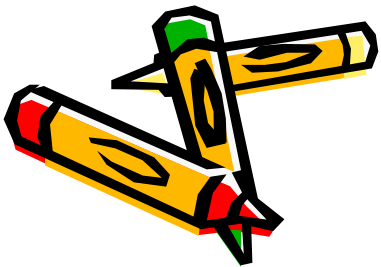
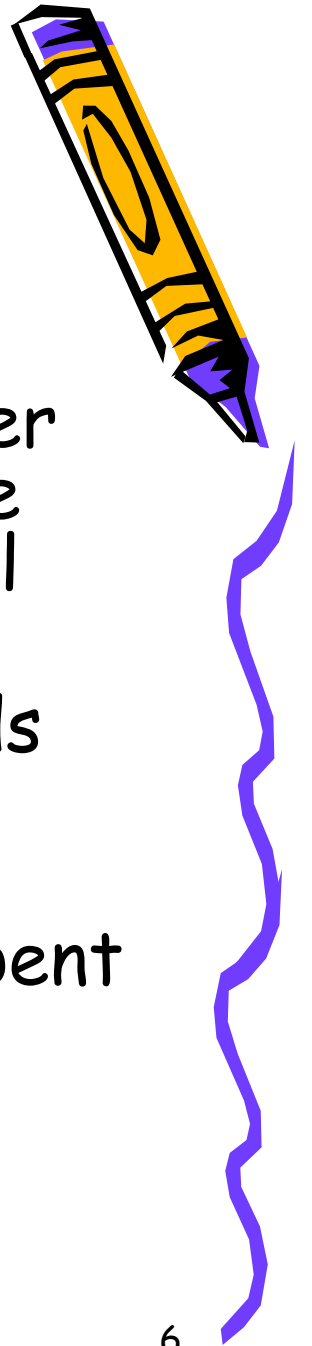
Compacting

- Compacting is the process of adjusting instruction to account for prior student mastery of learning objectives.



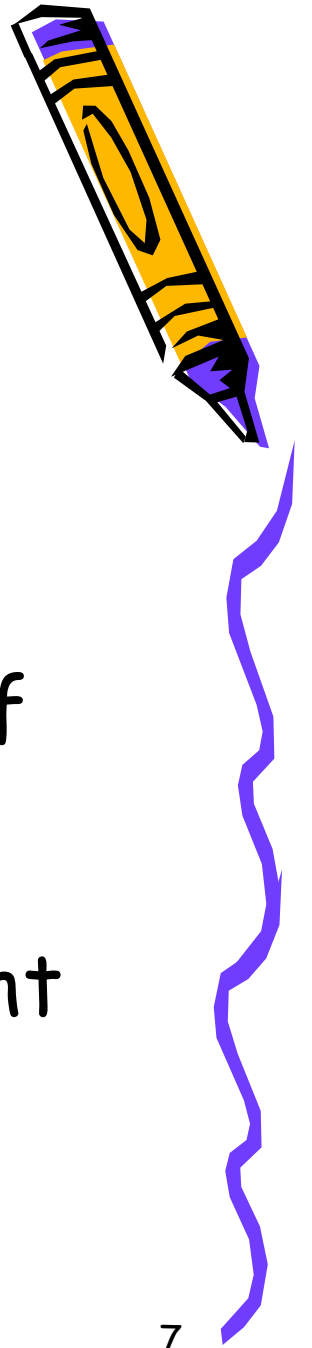
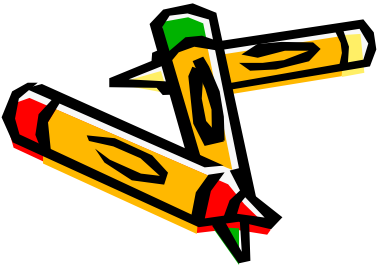
A Three-step Process in Compacting

- Assess the student to determine his/her level of knowledge on the material to be studied and determine what he/she still needs to master.
- Create plans for what the student needs to know, and excuse the student from studying what he/she already knows
- Create plans for freed-up time to be spent in enriched or accelerated study



For example

- A third grade class is learning to identify the parts of fractions. Diagnostics indicate that two students already know the parts of fractions. These students are excused from completing the identifying activities and are taught to add and subtract fractions.



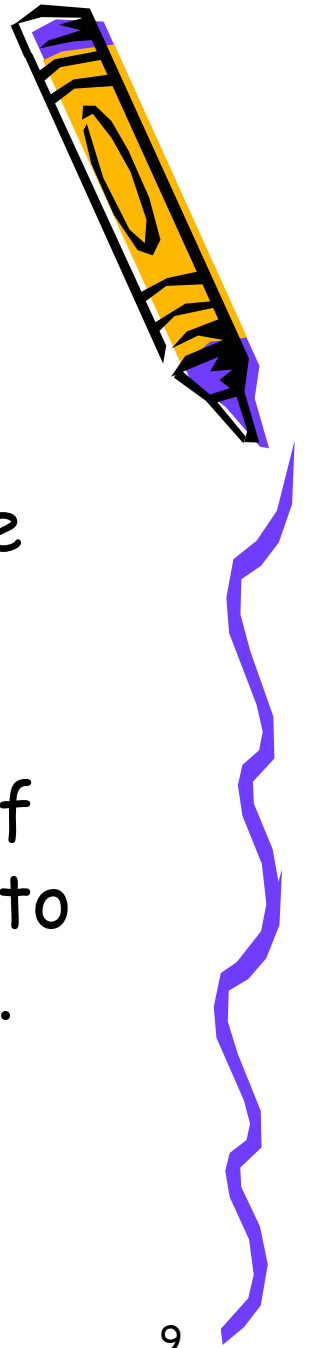
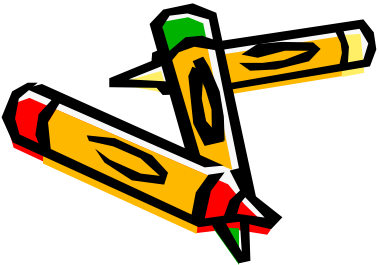
Interest Centers or Interest Groups

- Interest centers and interest groups are set up so that learning experiences are directed toward a specific learner interest. Allowing students to choose a topic can be motivating to them.



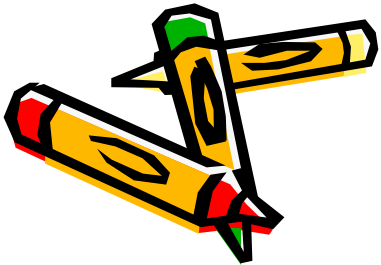
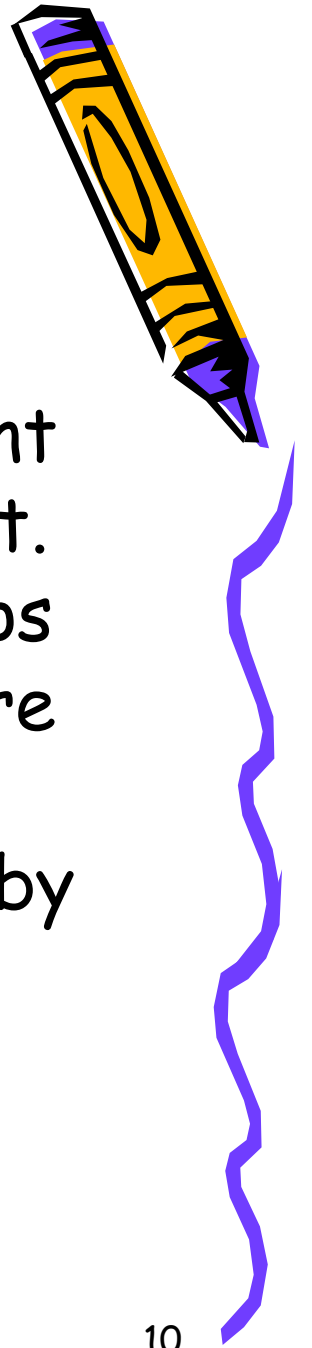
For example

- Interest Centers can focus on specific math skills such as addition, and provide activities that are high interest.
- Interest Groups-Students can work in small groups to research a math topic of interest, such as how geometry applies to architecture or how math is used in art.



Flexible Grouping

- Students work as part of many different groups depending on the task or content. Sometimes students are placed in groups based on readiness, other times they are placed based on interest or learning profile. Groups can either be assigned by the teacher or chosen by the students.



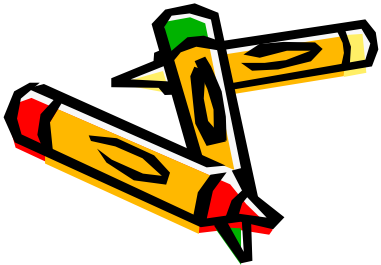
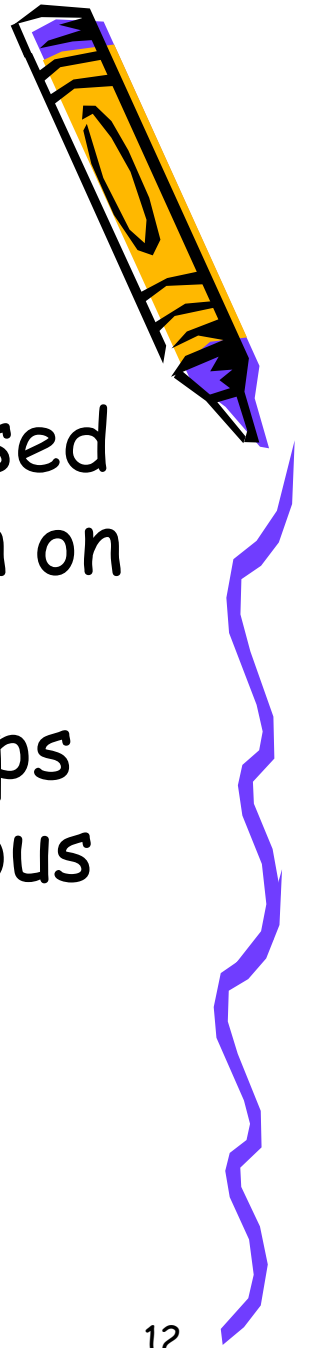
Flexible Grouping

- Students can be assigned purposefully to a group or assigned randomly. This strategy allows students to work with a wide variety of peers and keeps them from being labeled as advanced or struggling.



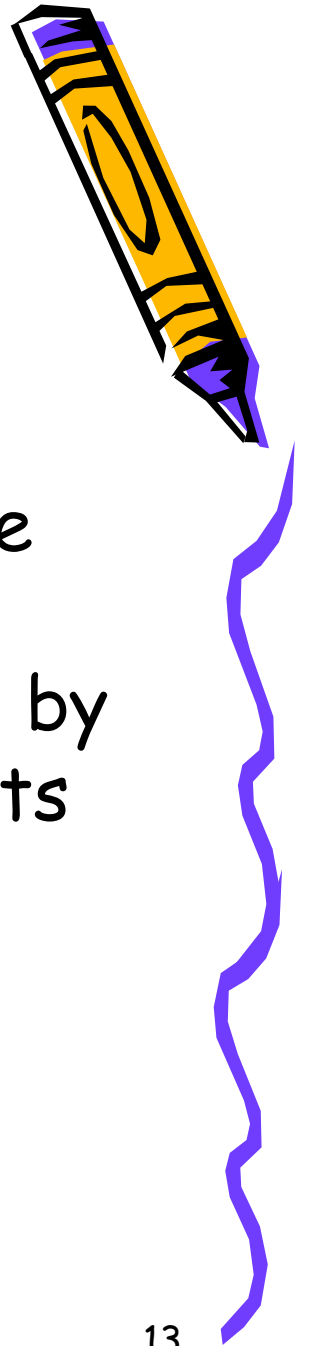
For example

- The teacher may assign groups based on readiness for direct instruction on algebraic concepts, and allow students to choose their own groups for projects that investigate famous mathematicians.



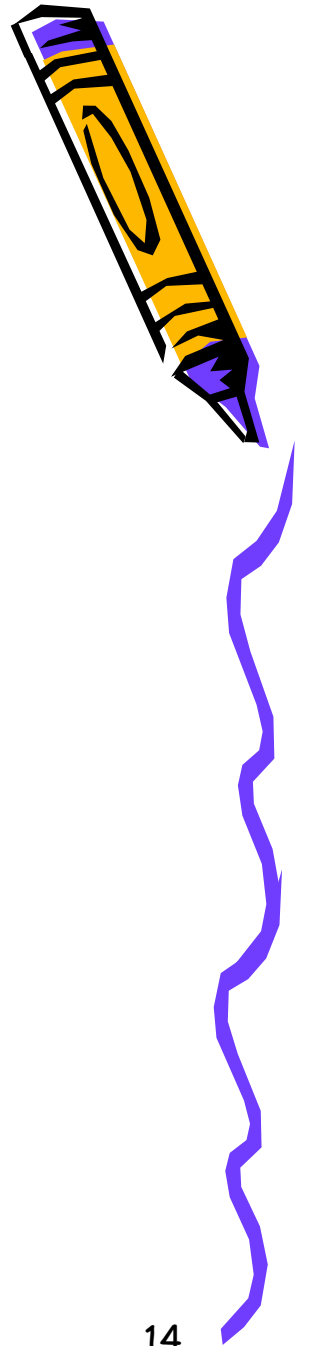
Learning Contracts

- Learning contracts begin with an agreement between the teacher and the student. The teacher specifies the necessary skills expected to be learned by the student and the required components of the assignment while the student identifies methods for completing the task.



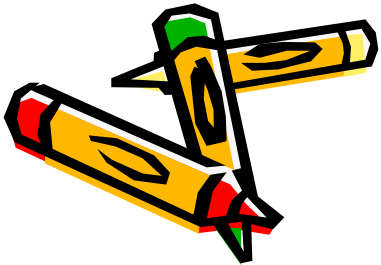
Learning Contract Strategies

- Allow students to work at an appropriate pace.
- Target learning styles
- Help students work independently, learn planning skills, and eliminate unnecessary skill practice.



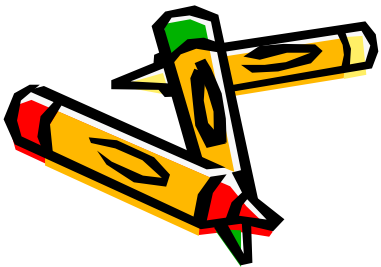
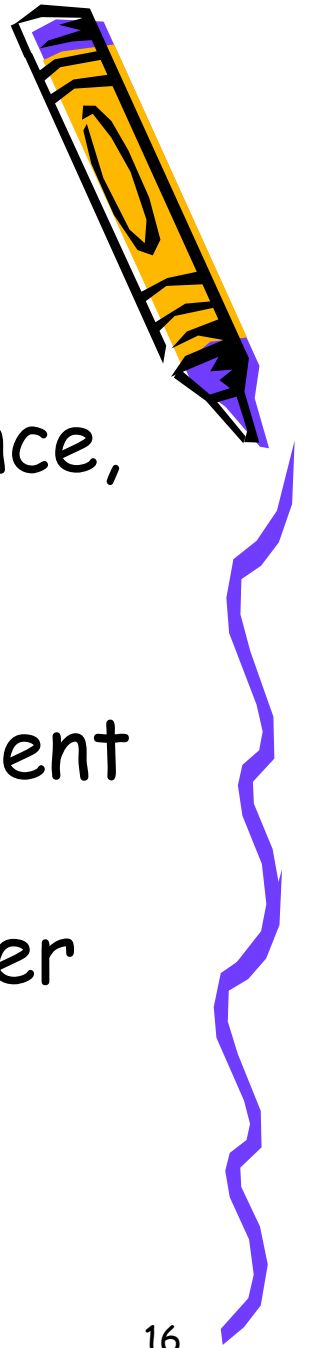
For example

- A student decides to follow a football team over a two-month period and make inferences about players' performances based on their scoring patterns and physical characteristics.



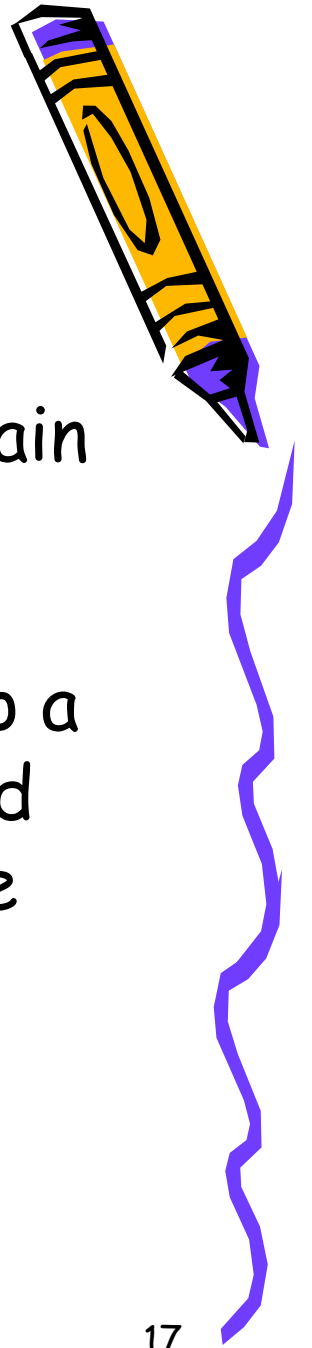
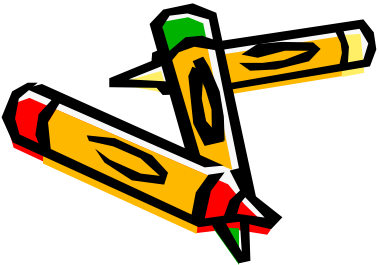
For example

- The student, with teacher's guidance, develops a plan for collecting and analyzing the data and conducting research about football. The student decides to create a PowerPoint presentation to represent his or her findings to the class.



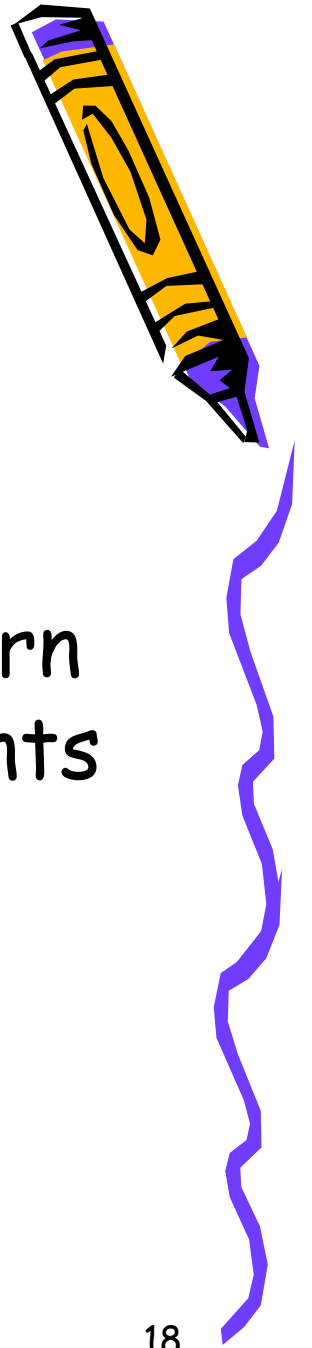
Choice Boards

- Choice boards are organizers that contain a variety of activities. Students can choose one or several activities to complete as they learn a skill or develop a product. Choice boards can be organized so that students are required to choose options that focus on several different skills.



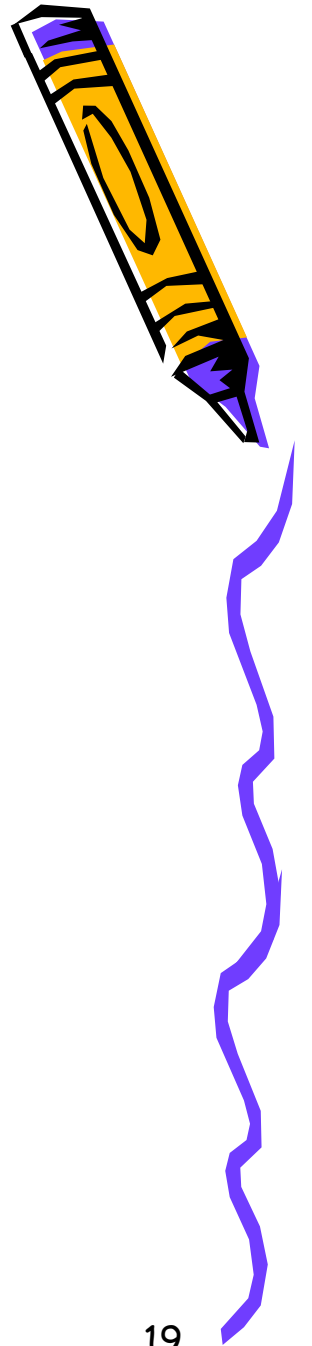
For example

- Students are given a choice board that contains a list of possible activities they can complete to learn about volume. For example, students can choose to complete an inquiry lesson where they measure volume using various containers.



For example

- Use a textbook to read about measuring volume, or watch a video in which the steps are explained. The activities are based on the following learning styles: Visual, auditory, kinesthetic, and tactile. Students must complete two activities from the board and must choose these activities from two different learning styles.



References

- Hall, T., Strongman, N., & Meyer, A. (2003). Differentiated instruction and implications for UDL implementation. National Center on Accessing the General Curriculum. Retrieved July 9, 2004 from:
http://www.k8accesscenter.org/training_resources/udl/diffi

